

AMENDMENTS

In the Claims:

1. (Withdrawn) A process of producing carotenoid compounds by culturing a microorganism producing a plurality of carotenoid compounds, wherein the production ratios of the resultant carotenoid compounds are made constant by controlling the concentration of dissolved oxygen in the culture during cultivation.
2. (Withdrawn) The process according to claim 1, wherein the microorganism is a bacterium in which the nucleotide sequence of a DNA corresponding to its 16S ribosomal RNA has 98% or more homology to the nucleotide sequence as shown in SEQ ID NO: 1.
3. (Withdrawn) The process according to claim 1, wherein the microorganism is selected from the group consisting of E-396 strain (FERM BP-4283) and mutants thereof, and A-581-1 strain (FERM BP-4671) and mutants thereof.
4. (Withdrawn) The process according to claim 1, wherein the carotenoid compounds are one or more compounds selected from the group consisting of astaxanthin, adonixanthin, .beta.-carotene, echinenone, canthaxanthin, zeaxanthin, .beta.-cryptoxanthin, 3-hydroxyechinenone, asteroidenone and adonirubin.
5. (Currently amended) A process of producing carotenoid compounds by culturing a microorganism producing a plurality of carotenoid compounds, wherein the production ratios of the resultant produced carotenoid compounds are changed by controlling the concentration of dissolved oxygen in the culture during cultivation, and recovering caretenoids from the microorganism, wherein the microorganism is a bacterium in which the nucleotide sequence of a DNA corresponding to its 16S ribosomal RNA has 98% or more homology to the nucleotide sequence as shown in SEQ ID NO: 1.

6. (Canceled)

7. (Original) The process according to claim 5, wherein the microorganism is selected from the group consisting of E-396 strain (FERM BP-4283) and mutants thereof, and A-581-1 strain (FERM BP-4671) and mutants thereof.

8. (Original) The process according to claim 5, wherein the carotenoid compounds are one or more compounds selected from the group consisting of astaxanthin, adonixanthin, .beta.-carotene, echinenone, canthaxanthin, zeaxanthin, .beta.-cryptoxanthin, 3-hydroxyechinenone, asteroidenone and adonirubin.

9. (Original) The process according to claim 5, wherein the production ratio of adonixanthin is increased by controlling the concentration of dissolved oxygen in the culture during cultivation within a range of 40-100% of the saturated oxygen concentration.

10. (Original) The process according to claim 5, wherein the production ratio of astaxanthin is increased by controlling the concentration of dissolved oxygen in the culture during cultivation within a range of 20-30% of the saturated oxygen concentration.

11. (Currently amended) The process according to claim 5, wherein ~~the production ratios of .beta.-carotene, echinenone, canthaxanthin, 3-hydroxyechinenone and adonirubin are increased by controlling the concentration of dissolved oxygen in the culture during cultivation is limited to between within a range of~~ 0-10% of the saturated oxygen concentration.

12. (New) The process according to claim 5, wherein the microorganism is a bacterium in which the nucleotide sequence of a DNA corresponding to its 16S ribosomal RNA has 99.4% or more homology to the nucleotide sequence as shown in SEQ ID NO: 1.

13. (New) A process for producing carotenoid compounds with a decreased proportion of astaxanthin from a genus of bacteria represented by bacterial strains E-396 (FERM BP-4283) and A-581-1 (FERM BP-4671), comprising culturing the bacterium at a restricted oxygen concentration of less than 10% saturated oxygen, and recovering the carotenoid compounds.

14. (New) The process according to claim 13, wherein the bacterium has a DNA nucleotide sequence corresponding to its 16S ribosomal RNA of 98% or more homology to the nucleotide sequence as shown in SEQ ID NO: 1.

15. (New) A process for producing carotenoid compounds with an increased proportion of astaxanthin from a genus of bacteria represented by bacterial strains E-396 (FERM BP-4283) and A-581-1 (FERM BP-4671), comprising culturing the bacterium at a dissolved oxygen concentration of 15 to 40%.

16. (New) The process according to claim 15, wherein the bacterium has a DNA nucleotide sequence corresponding to its 16S ribosomal RNA of 98% or more homology to the nucleotide sequence as shown in SEQ ID NO: 1.